

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A paper web handling apparatus wherein a paper web is continuously fed in a downstream direction of web travel from a utilization device comprising:

a slitte downstream of the utilization device that divides the web into at least a first and a second web ribbon, said web ribbons in side by side relation;

a cutter located downstream of the slitte capable of transversely cutting the web ribbons;

a driven master roller that draws either the first or the second web ribbon at a speed related to that of the utilization device, said driven master roller being oriented adjacent to the cutter;

at least one slave roller that draws the other of the first or the second web ribbon at a speed at least equal to that of the driven master roller, said master roller and said slave roller being oriented on opposing planar sides of at least one of said web ribbons, wherein said master roller is directly coupled to said slave roller; and

a first turnbar assembly between the slitte and the cutter for shifting the second web ribbon laterally relative to the downstream direction to orient the second web ribbon in vertical alignment with the first web ribbon, one on top of the other, so they move through said cutter to be cut simultaneously.

2. (Withdrawn) The apparatus as defined by claim 1, further comprising an adjustable take-up roller defining a detour in the path for the first web ribbon, said detour providing a path of the same length as a path length required for the second web ribbon.

3. (Withdrawn) The apparatus as defined by claim 1 further comprising web braking means between the slitte and the utilization device.

4. (Original) The apparatus as defined by claim 1 wherein the slave roller is driven at a speed greater than that of the master roller to assure that at least the first and second web ribbons are merged one on top of the other upon reaching the cutter.
5. (Withdrawn) The apparatus as defined by claim 4 further characterized by an adjustable take-up roller defining a detour in the path for the first web ribbon, said detour providing a path from the slitler to the cutter of the same length as the path length required for the second web ribbon from the slitler through the first turnbar assembly to the cutter.
6. (Original) The apparatus as defined by claim 1 wherein the first turnbar assembly comprises a single turnbar oriented at an angle relative to the downstream direction of web travel.
7. (Original) The apparatus of claim 6 wherein the single turnbar is adjustable to vary the angle relative to the downstream direction of web travel.
8. (Withdrawn) The apparatus as defined by claim 6 wherein the single turnbar includes circumferential perforations from which pressurized air supplied from an external source may escape, thereby reducing friction between the second web ribbon and the turnbar.
9. (Withdrawn) The apparatus as defined by claim 8 wherein the second web ribbon wraps at least 180° about the single turnbar.
10. (Withdrawn) The apparatus as defined by claim 8 wherein the second web ribbons wraps at least 350° about the single turnbar.
11. (Original) The apparatus as defined by claim 1 further comprising a second slitler downstream of the utilization device such that the two slitters divide the web into first, second and third web ribbons, each of said web ribbons in side by side relation; and

a second turnbar assembly between the slitter and the cutter for shifting the third web ribbon laterally relative to the downstream direction to orient the third web ribbon in vertical alignment with the first web ribbon.

12. (Original) The apparatus as defined by claim 11 wherein
the first turnbar assembly comprises a single turnbar oriented at an angle relative to the downstream direction of web travel; and
the second turnbar assembly comprises a distinct single turnbar oriented at an angle relative to the downstream direction of web travel.

13. (Original) The apparatus as defined by claim 12 wherein each of the single turnbar and the distinct single turnbar is adjustable to vary the angle relative to the downstream direction of web travel.

14. (Original) The apparatus as defined by claim 12 wherein
the second web ribbon wraps at least 180° about the single turnbar; and
the third web ribbon wraps about the distinct single turnbar either 360° more or 360° less than the amount the second web ribbon wraps about the single turnbar.

15. (Original) The apparatus as defined by claim 14 wherein the second web ribbon wraps at least 350° about the single turnbar.

16. (Original) The apparatus as defined by claim 1 wherein the slitter and turnbar assembly are each independently bypassable such that the web will not be cut by the slitter nor merged one on top of the other.

17. (Withdrawn) The apparatus as defined by claim 1 further including a mechanism to register travel of the web by sensing a perforated margin on the web, said mechanism bypassable so that pinless web may be processed through said apparatus.

18. (Previously Presented) In a web handling apparatus wherein at least a first and a second web ribbons are continuously fed in a downstream direction and merged one above the other, the improvement comprising:

a master drive roller in continuous contact with said first web ribbon and drawing said first web ribbon in said downstream direction;

a slave roller driven at a rotational speed in excess of that of said master drive roller, said slave roller in slipping contact with said second web ribbon and drawing said second web ribbon in said downstream direction; and

said master roller and said slave roller are oriented on opposing planar sides of at least one of said first web ribbon and said second web ribbon, wherein said master roller is directly coupled to said slave roller.

19. (Original) The improvement as defined by claim 18 further comprising:

a turnbar roller angled relative to said downstream direction, one of said first or second web ribbons passing at least 270° about said turnbar roller to merge one of said ribbons one above or below the other prior to contact with either of said master drive roller or said slave roller.

20. (Withdrawn) The improvement as defined by claim 19 wherein said turnbar roller includes perforations about at least a portion of an arcuate surface thereof through which pressurized gas from an external source escapes, thereby reducing friction between said turnbar roller and said first or second web ribbon.

21. (Currently Amended) A web handling apparatus capable of processing a web of the pinless variety, wherein a continuous web moves in a downstream direction from an upstream utilization device, comprising:

slitters for dividing at least a portion of the continuous web into a plurality # of continuous web ribbons, including a primary web ribbon;

a master drive roller driven at a rotational speed R and in continuous contact with [[a]] said primary web ribbon, and drawing said primary web ribbon in a downstream direction;

$\frac{n-1}{2} + \frac{1}{2}$ driven at a rotational speed greater than R , said slave roller in slipping contact with one of the web ribbons except the primary web ribbon, and drawing said web ribbons in slipping contact in a downstream direction; and

a pair of turnbar rollers each defining an angle relative to said downstream direction, each of said individual web ribbons except one passing at least 270° about one of said turnbar rollers to merge said ribbons one above the other prior to contact of said web ribbons with either said master driven roller or ~~one of~~ said slave rollers;

22. (Withdrawn) The web handling apparatus as defined by claim 21 wherein at least one of the plurality of $n-1$ turnbar rollers include perforations on an arcuate surface thereof through which a pressurized gas from an external source may escape, thereby reducing friction with said web ribbon passing at least 270° thereabout.

23. (Original) The web handling apparatus as defined by claim 21 wherein at least one of said turnbar rollers is adjustable to define one of a plurality of possible angles relative to said downstream direction.

24. (New) Apparatus for slitting and merging ribbons from a preprinted paper web so that the ribbons can be superposed one on top of the other and synchronized to one another for simultaneous severing at the single cutting station, said apparatus comprising:

- a. a slitting station where the paper web is slit into at least first and second ribbons,
- b. a turnbar roller for the first of said at least two ribbons, said turnbar roller angled to the downstream direction, and having said first ribbon wrapped around a substantial portion of the periphery of said turnbar roller, whereby the first and second ribbons are superposed one above the other directly downstream of said slitting station,
- c. a ribbon drive station where rollers provide the tension required in said ribbons to draw the web and slit ribbons in the same downstream direction,

- d. a single cutting station where emerged ribbons are simultaneously cut, and
- e. a take up roller so arranged as to substantially duplicate the path length of the second ribbon relative to the first.

25. (New) The apparatus according to claim 24 wherein said drive station rollers associated with said ribbons comprise a master roller driven at a predetermined speed and associated with said first ribbon, and a slave roller driven at a predetermined speed equal to or greater than that of said master roller and associated with said second ribbon, said slave roller acting on said second ribbon for providing sufficient tension to advance said second ribbon around said take up rollers.

26. (New) The apparatus according to claim 24 further characterized by an additional turnbar roller smaller in diameter than the first turnbar roller and associated with a third ribbon created at said slitting station, and take up rollers associated with said third ribbon for substantially duplicating the path length of the third ribbon relative to the first and second ribbons.

27 (New) The apparatus according to claim 24 wherein said turnbar roller includes means for gripping the ribbon wrapped around its periphery so as to prevent slipping of the ribbon axially relative to the turnbar roller.

28. (New) The apparatus according to claim 27 wherein said means comprises a source of negative pressure or vacuum created inside said turnbar roller, and opening provided in a portion of the periphery of said turnbar roller.